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CIA/RR GB 64-16
May 1964

CLIMATIC AND SOIL DATA ON KUYBYNSHEV

(53°12'N-50°09'E)

I. Climate

A. Summary

The annual temperature-precipitation regime of Kuybyshev is roughly analogous to that of the northern Great Plains region of the United States in northwestern North Dakota and northeastern Montana. Rainfall is more evenly distributed throughout the year in Kuybyshev, however, and the climate there probably can be considered more favorable for construction.

Winters are characterized by a long sustained cold period in which the average daily temperature remains below 23°F from mid-November to mid-March (see Table 1) and is as low as 7.5°F in late January. Precipitation is evenly distributed throughout the year. September and October receive the heaviest amounts (1.7 inches each), which is about two and one-half times greater than that of February, which receives the lightest amount (0.7 inches) (see Table 2). From April through October, precipitation in quantities greater than 0.2 inches occurs on the average of two to three times a month. Summer rainfall is frequently in the form of showers. Snowfall occurs from October through April with a maximum frequency of 7 to 11 days per month in December through February. Permanent snow cover generally begins in late November and lasts until mid-April, with the average maximum depths (13.4 inches) usually occurring in late February or early March.

Soils are frozen to a depth of at least 9.5 inches between late November and early April, with average maximum depths of 32.2 inches occurring in February and March. Occasionally the soils freeze to a depth of 40 inches. For a period of about 3 weeks in early April, the ground is usually wet.

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Table 1
Temperature

		Degrees Fahrenheit	
	<u>Average</u>	<u>Average Daily Maximum</u>	<u>Average Daily Minimum</u>
January	7.9	11	2
February	8.6	14	0
March	19.8	27	10
April	39.6	52	32
May	57.0	68	45
June	65.5	76	54
July	69.1	83	58
August	65.8	79	56
September	54.1	68	45
October	40.1	51	35
November	25.0	33	21
December	12.9	16	5

Absolute minimum temperature: -45.4

Absolute maximum temperature: 98.6

Average daily temperature falls below:

- 14 -- 12 December to 6 March (84 days)
- 23 -- 18 November to 22 March (124 days)

Average daily temperature exceeds:

- 32 -- 6 April to 1 November (209 days)
- 41 -- 18 April to 13 October (178 days)
- 50 -- 29 April to 23 September (147 days)
- 59 -- 21 May to 6 September (106 days)
- 68 -- 2 July to 4 August (33 days)

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Table 2
Precipitation

	<u>Average Precipitation (inches)</u>	<u>Average Number of Days with Thunderstorms</u>	<u>Average Number of Days with Snowfall</u>
January	0.8	0.2	11
February	0.7	0.2	8
March	0.8	0.0	4
April	1.0	0.5	2
May	1.3	0.0	0
June	1.6	0.3	0
July	1.5	0.0	0
August	1.6	0.0	0
September	1.7	0.0	0
October	1.7	0.2	less than 0.5
November	1.3	0.0	5
December	1.0	0.0	7

Average annual precipitation: 15 inches

Average number of days per year with snow cover: 141

Average date of first snow cover: 5 November

Average date of disappearance of snow cover: 15 April

Average maximum depth of snow cover (based on 10-day period of greatest depth): 13.4 inches

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B. Reliability of Data

Data on average daily maximum and minimum temperatures and on average number of days with thunderstorms and snowfall are taken from a 1948 USAF publication and are based upon limited pre-World War II Soviet data covering the period 1932-36. All other data are from recent Soviet sources that are based on long periods of observation made by the Hydrometeorological Service of the USSR and are therefore more reliable.

2. Soils and Landforms

The eastern part of Khyhyashov is situated on a terrace slightly above the adjacent floodplain of the Sumara River. The soils are leached chernozems, consisting of medium-heavy clay and silt. They are underlain by predominantly soft bedrock formed of sand, silt, clay, and gravel, with occasional outcrops of bedded limestone. Information on the depth of soil and bedrock in the specific area under consideration is not readily available.

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Title of Report

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CST/MS/RR

(for NIE 11-8)

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